1. PURPOSE OF AND NEED FOR ACTION

1.1 Purpose

The purpose of this project is to decrease congestion, upgrade interchange ramp and mainline capacities, improve the deteriorating mainline and ramp pavement and bridges, and upgrade geometric conditions to current standards on 11 miles of I-465 from SR 67 to 56th Street (Figure 1-1).

1.2 Need

The project is needed because:

- Portions of I-465 are severely congested and operate at Level of Service (LOS) E today. By the planning horizon year (2025), the LOS will fall to F over the entire project length except for the area between SR 67 and I-70, which is already four lanes in each direction and would operate at LOS E. This is well below INDOT and Federal Highway Administration (FHWA) guidelines for urban areas of LOS D.
- Pavement and bridge conditions are deteriorating and the original construction no longer meets current design standards. Reconstruction to current standards will improve traffic flow and safety.

1.3 Planning and Coordination

The project is in the *Update of the Indianapolis Regional Transportation Plan for 2025*.[1] The section between US 36 and I-74 (west) is listed for improvement in the 2000-2006 timeframe, and the balance of the corridor to the north and south is listed for improvement in the 2007-2015 timeframe. The improvements are defined as widening to 10 lanes with interchange modifications.

The *Indianapolis Regional Transportation Improvement Program* for 2002 to 2004 lists the project as being in the Preliminary Engineering and Right-of-Way/Land Acquisition phases over the next three years.

A *Thoroughfare Plan* is a component of the *Indianapolis-Marion County Comprehensive Plan*.[2] It does not specify improvements but recognizes that I-465 is part of the freeway system in Indianapolis, with full control of access.

There are several existing/proposed projects in the project area (See Figure 1-2):

1. New road construction of Hendricks County North-South Corridor from US 40 to CR 600 N.
2. New interchange construction on I-70 at Six Points Road. Construction is to begin in 2002.
3. Relocation and lowering of I-70 for airport expansion from 0.4 miles west of I-465 to 0.75 miles east of existing Six Points Road. Construction is to begin in late 2002.

[1] *Update of the Indianapolis Regional Transportation Plan for 2025*, by The Corradino Group, for the Indianapolis Metropolitan Planning Organization, April 2001.

[2] *Indianapolis-Marion County Comprehensive Plan*, Department of Metropolitan Development, Division of Planning, adopted October 1991.

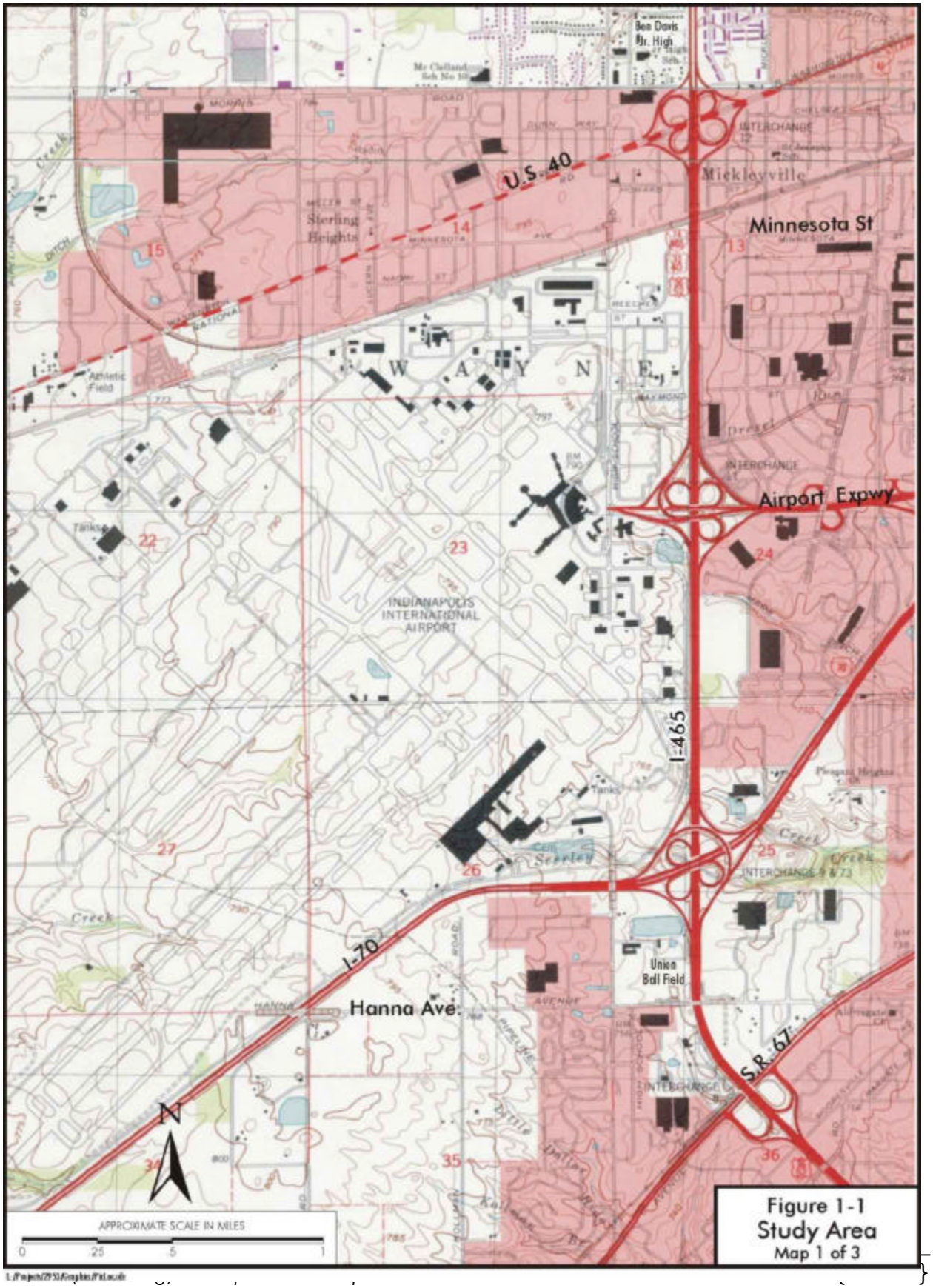


Figure 1-1
Study Area
Map 1 of 3

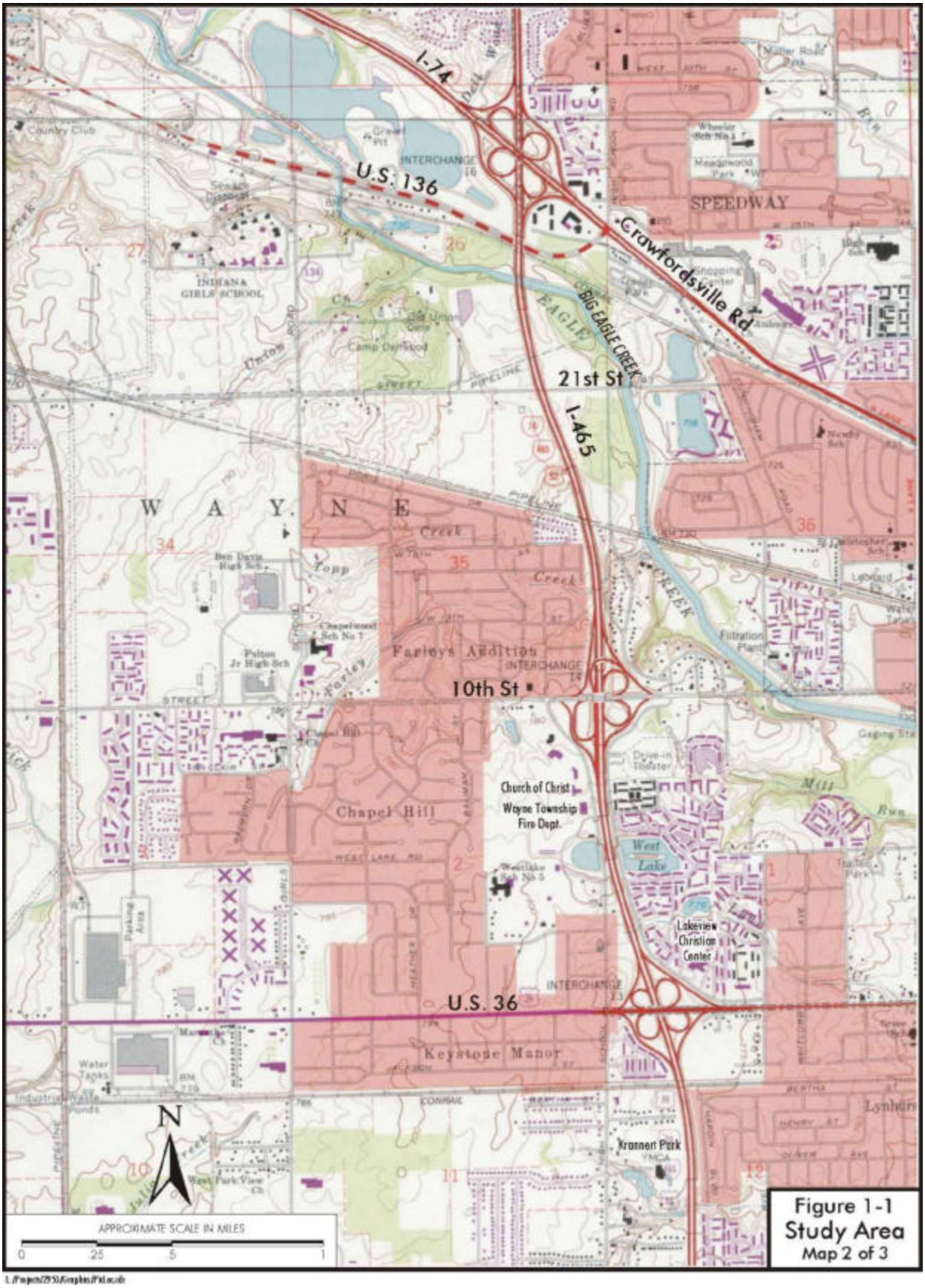


Figure 1-1
Study Area
Map 2 of 3

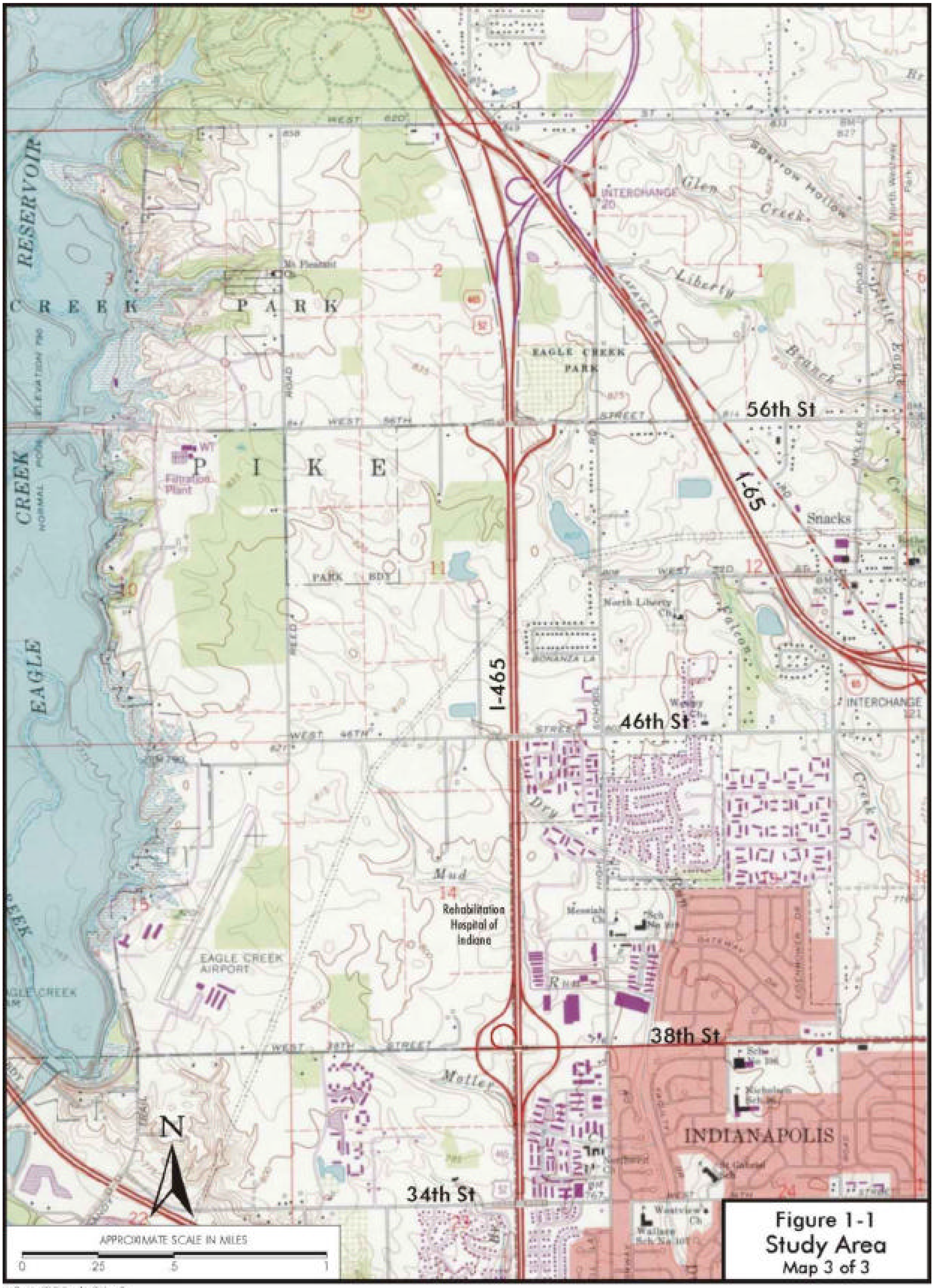


Figure 1-1
Study Area
Map 3 of 3

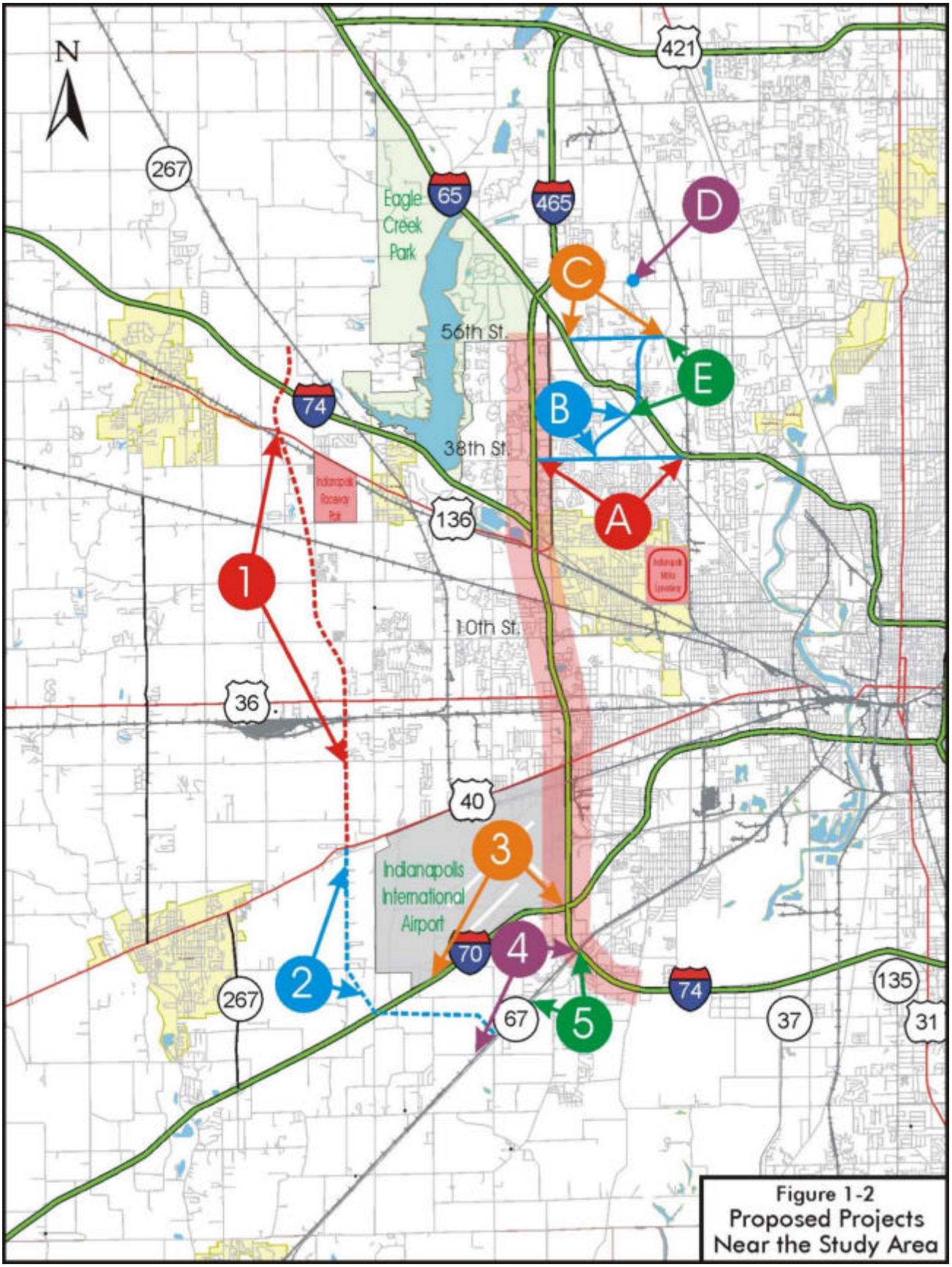


Figure 1-2
Proposed Projects Near the Study Area

Intersection improvements on SR 67 from Hendricks County Line to I-465. Construction is to begin in 2003.

5. Widening of SR 67 to a six-lane divided from Thompson Road to I-465. Construction is to begin in 2005.

In addition to the previous projects, there are several City of Indianapolis projects in the area:

A. Pavement rehabilitation on 38th Street from I-465 to I-65 to begin construction in 2003.
B. Added travel lanes from two lanes to four lanes on Pike Plaza from Lafayette Road to Moller Road to begin construction in 2003.
C. Added travel lanes from two lanes to four lanes on 56th Street from Lafayette Road to Guion Road to begin construction in 2003.
D. An intersection improvement at 62nd Street and Georgetown Road to begin construction in 2004.
E. Added travel lanes from two lanes to four lanes on Georgetown Road from Lafayette Road to 56th Street to begin construction in 2005.

There has been extensive coordination with project management of other projects to ensure that planning for I-465 is consistent with planning for those projects, particularly I-70 and improvements to SR 67. Coordination covers both physical design and project timing as it relates to both funding and maintenance of traffic during construction. Coordination has also covered lanage requirements of bridges serving local roads that pass over I-465. Pavement replacement/repair/rehabilitation on I-465 would occur at the same time as construction of new lanes to minimize traffic disruptions.

1.4 System Linkage

Few alternatives are available for north-south travel on the west side of Indianapolis resulting in local traffic using I-465 for local trips in addition to the regional and national trips on the interstate. I-465 provides the through route alternative to travel through downtown Indianapolis for vehicles moving between Chicago and Louisville. It is also designated as I-74 from exit 8 (SR 67) on I-465 to exit 16 on I-465. Thus, the road is of national, as well as local and regional significance.

1.5 Capacity/Demand

Vehicles per day (vpd) in the study area ranged in 1998 from over 93,000 between I-70 and Airport Expressway to over 147,000 between US 36 and 10th Street. By 2026, traffic volumes are expected to increase between 53 and 77 percent. The area with the highest expected percentage increase is I-70 to Airport Expressway. Traffic in that section is expected to increase 77 percent from 93,000 vpd to 165,000 vpd. In 2026, the vpd in the study area will range from 158,000 (SR 67 to I-70) to 224,000 (US 36 to 10th Street) (Table 1-1).

Table 1-1
I-465 Traffic Volumes (Vehicles Per Day)

Segment	1998	2026	Percent Increase
SR 67 to I-70	93,380	158,400	70%
I-70 to Airport Exp.	93,240	164,900	77%
Airport Exp. to US 40	122,180	190,300	56%
US 40 to US 36	136,260	209,000	53%
US 36 to 10th Street	147,040	224,300	53%
10th Street to I-74	141,360	218,300	54%
I-74 to 38th Street	117,600	184,500	57%
38th Street to 56th Street	105,160	175,600	67%

Source: Pflum, Klausmeier & Gehram Consultants, Inc.

This project is needed to improve the capacity of mainline I-465, which is now three lanes in each direction (except for four lanes between SR 67 and I-70 and four lanes southbound between US 40 and the Airport Expressway). The roadway already operates at LOS E during parts of the day between US 40 and I-74. From US 40 to US 36, the roadway operates at LOS E in the PM peak. From US 36 to 10th Street and from 10th Street to I-74, the roadway operates at LOS E in both the AM and the PM peak. In 2026 if the roadway remains three lanes in each direction the whole corridor would operate at LOS F during parts of the day. (The only exception to this is the section between SR 67 and I-70 which is already four lanes and would operate at LOS E). The roadway between I-70 and 56th Street will be at LOS F in the AM and PM peaks. With four lanes in each direction all of the mainline would still operate at LOS F during parts of the day, except the southern part of the project area, which would operate at E or better (Table 1-2). If the mainline were expanded to five lanes in each direction, or four lanes plus an auxiliary lane, the mainline would operate at no worse than LOS D. Level of Service D is the INDOT/FHWA minimum LOS that may be used on urban reconstruction projects. These data suggest at least five lanes are needed in each direction to meet the minimum reconstruction goal.

Table 1-2
Mainline Hours at Level of Service E or F

Segment	2026 3 Lanes	2026 4 lanes	2026 5 Lanes
SR 67 to I-70	3	3	0
I-70 to Airport Exp.	7	3	0
Airport Exp. to US 40	12	6	0
US 40 to US 36	22	7	0
US 36 to 10th Street	24	7	0
10th Street to I-74	19	6	0
I-74 to 38th Street	13	3	0
38th Street to 56th Street	12	3	0

[a] Southbound and northbound added together
Source: INDOT and The Corradino Group

This project is needed to improve the capacity of the ramp junctions at the interchanges with I-465 (both merges to and diverges from I-465 and ramp termini at the ends of exit ramps). In 2026 all of the interchanges with I-465 in the project area will have at least one junction that will operate at LOS F (see Table 1-3 for the LOS range for ramp junctions at the I-465 interchanges and Figure 1-3 for the LOS of existing and proposed interchange configurations). A variety of geometric improvements, plus mainline widening, will address these deficiencies.

Table 1-3
2026 Level of Service at Ramp Junctions (Existing Geometric Conditions)

Interchanges with I-465	LOS 2026
SR 67 (Kentucky Avenue)	C-F
I-70	B-F
Airport Expressway	D-F
US 40 (Washington Street)	F-F
US 36 (Rockville Road)	D-F
10th Street	B-F
I-74	B-F
38th Street	A-F

Source: INDOT and The Corradino Group

This project is also needed to alleviate weaving constraints at all of the interchanges except SR 67 and 38th Street, which do not have weaving movements in their existing configurations. The capacity of a a weaving section depends on factors such as type of weave, length of weave, travel speed and volume of vehicles changing lanes vs. the volume of vehicles remaining in the same lane. As traffic levels have increased along the corridor, with the anticipation that they will continue to increase, the majority of the weaving sections along the corridor are projected to have poor capacity. These weave sections are created by the back to back loop configurations at the existing cloverleaf interchanges. In 2026, the six interchanges in the project area that have weaving movements will have at least one weaving section that will operate at LOS F (see Table1-4 and Figure 1-3 for the LOS range for weaving sections at the I-465 interchanges). A variety of geometric improvements, plus mainline widening, will address these deficiencies.

Table 1-4
2026 Level of Service at Weaving Sections (Existing Geometric Conditions)

Interchanges with I-465	LOS 2026
I-70	C-F
Airport Expressway	B-F
US 40 (Washington Street)	A-F
US 36 (Rockville Road)	B-F
10th Street	B-F
I-74	B-F

Source: INDOT and The Corradino Group

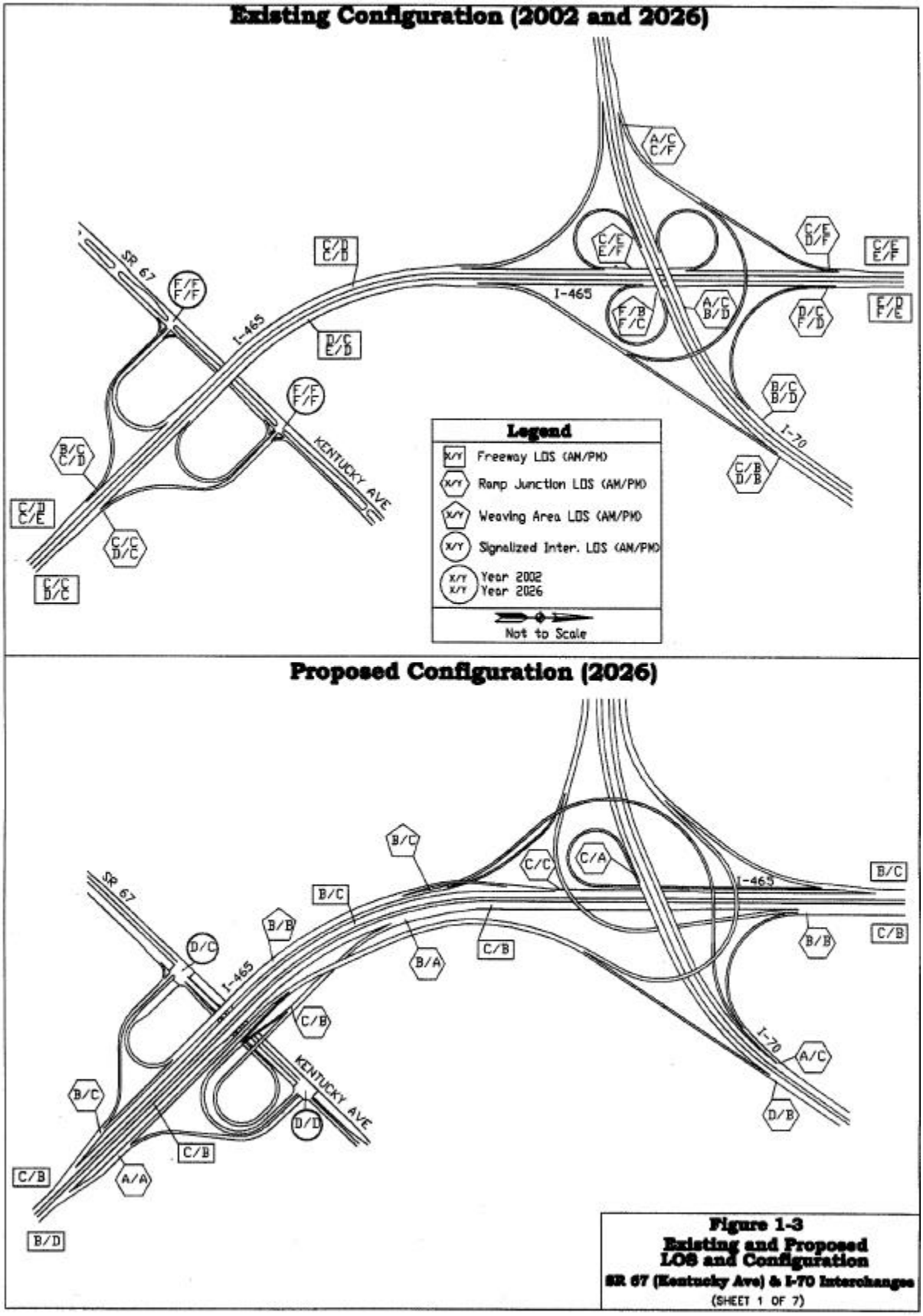
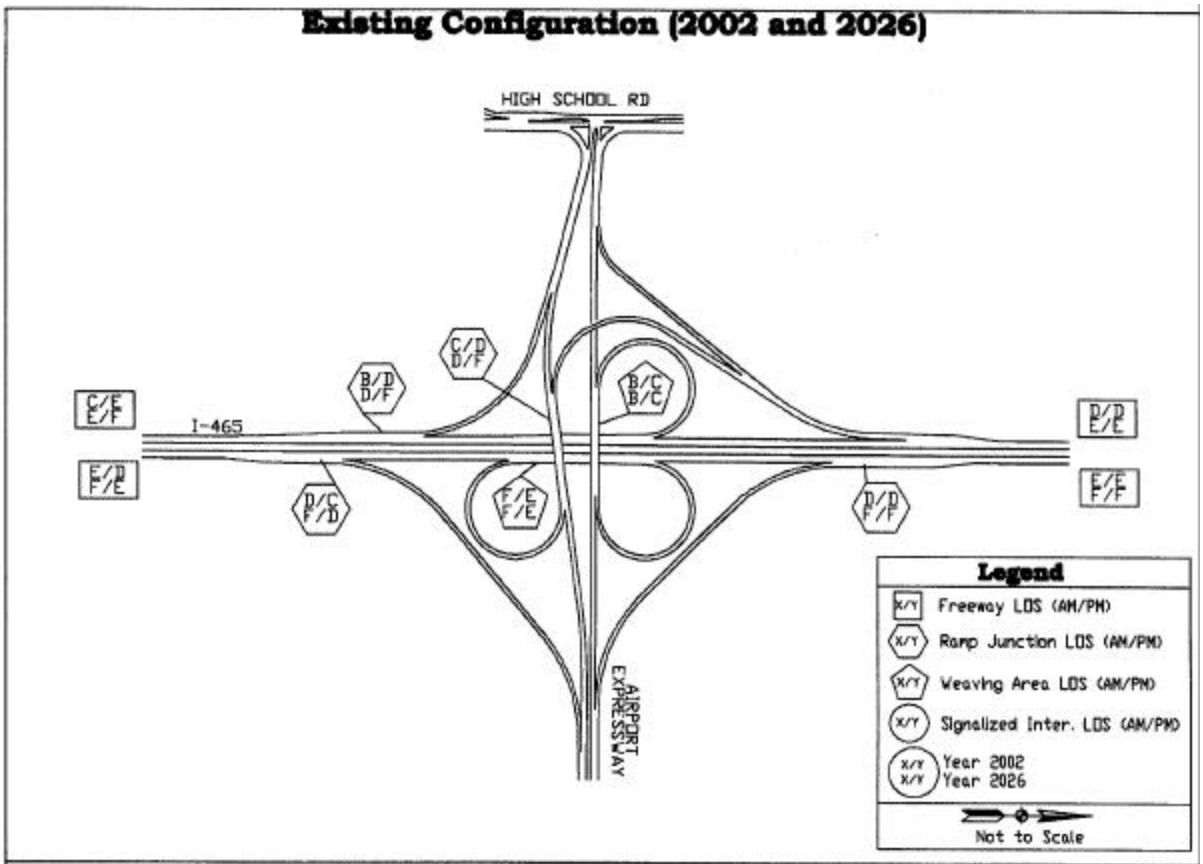


Figure 1-3
Existing and Proposed LOS and Configuration
SR 67 (Kentucky Ave) & I-70 Interchanges
(SHEET 1 OF 7)



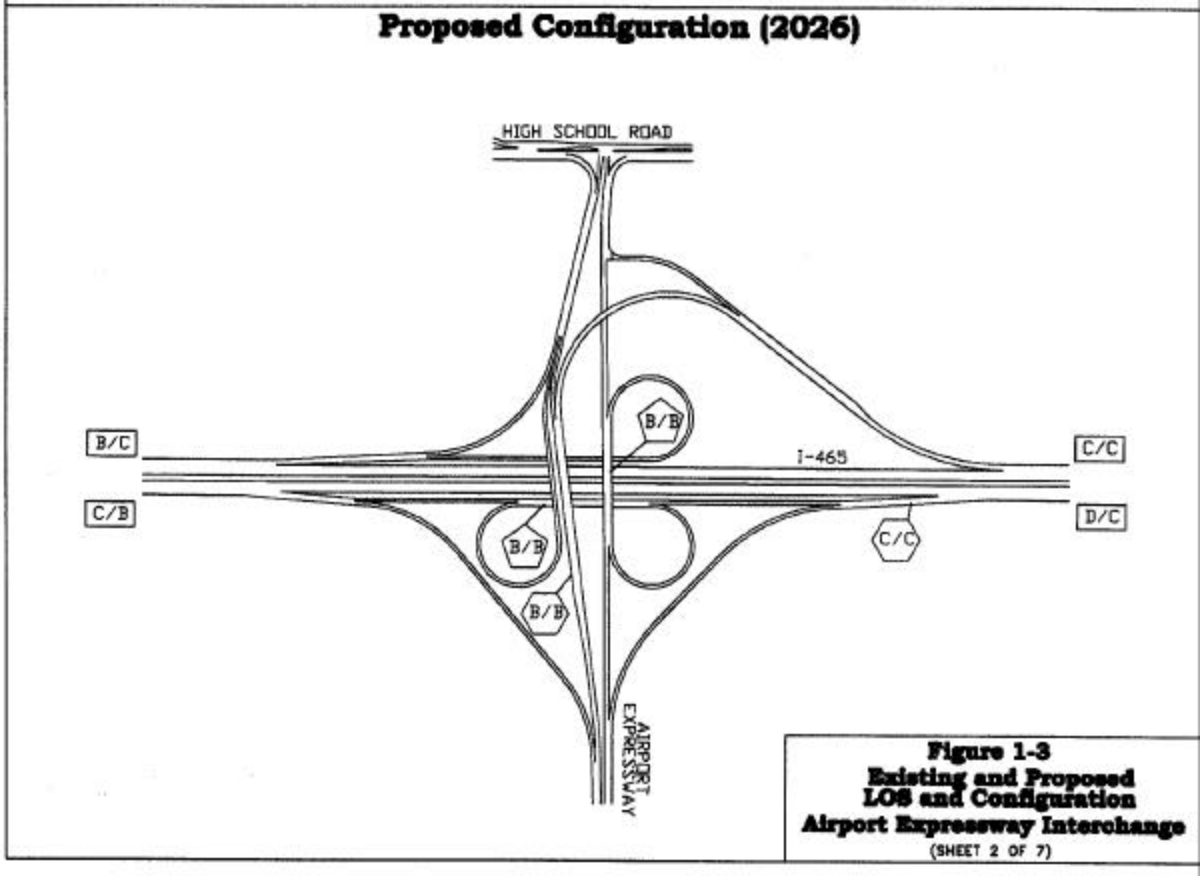


Figure 1-3
Existing and Proposed LOS and Configuration
Airport Expressway Interchange
(SHEET 2 OF 7)

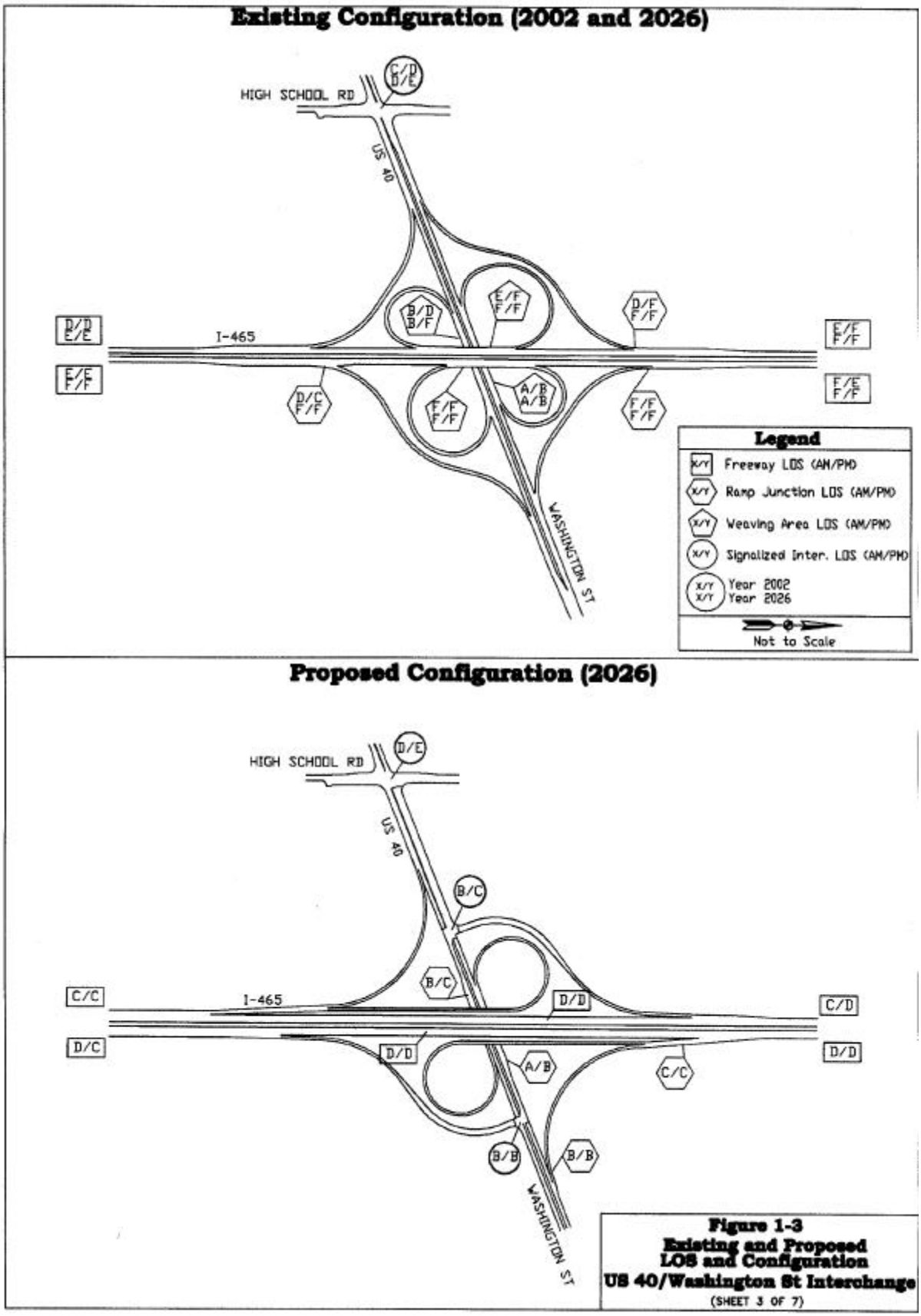


Figure 1-3
Existing and Proposed LOS and Configuration
US 40/Washington St Interchange
(SHEET 3 OF 7)

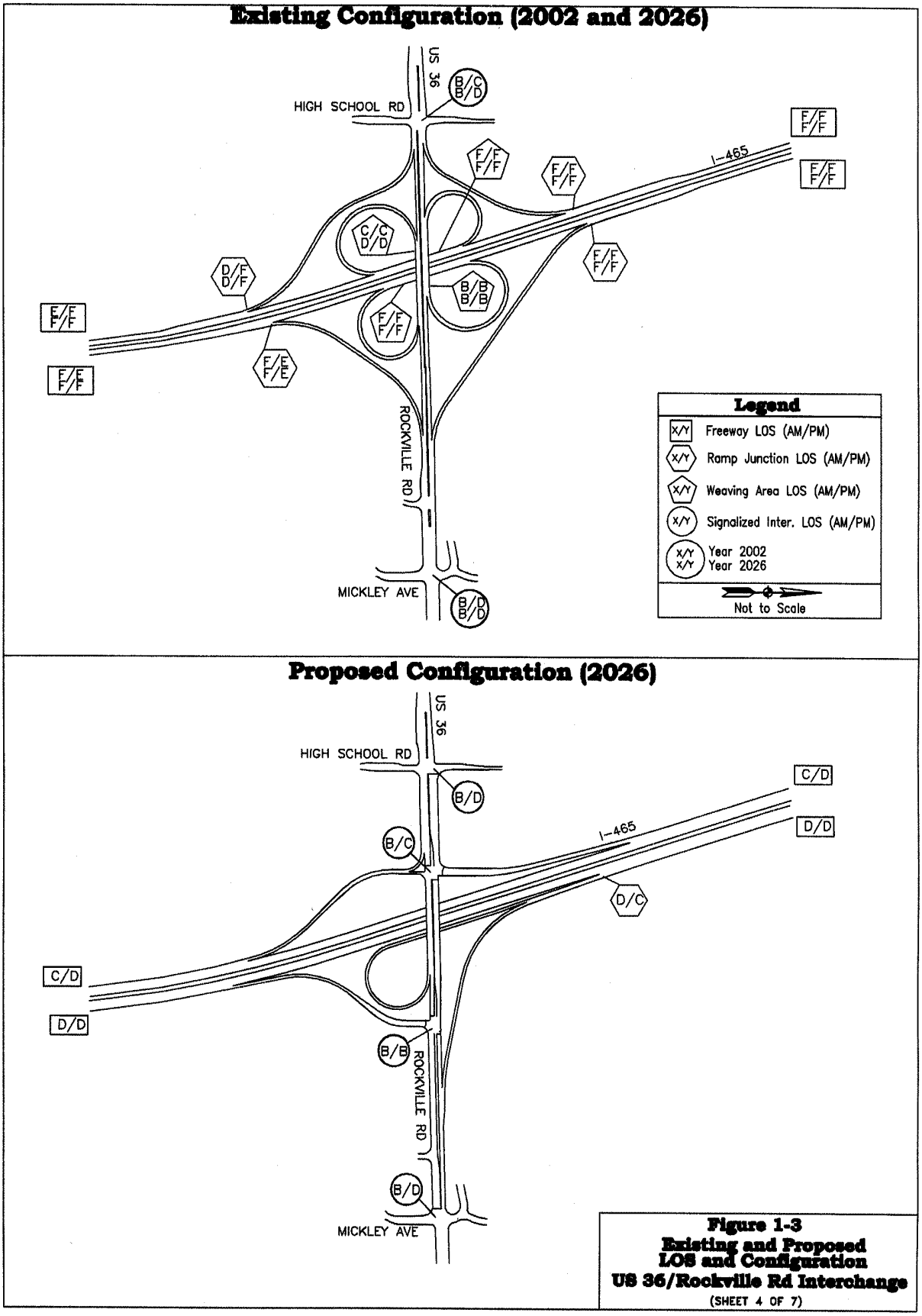
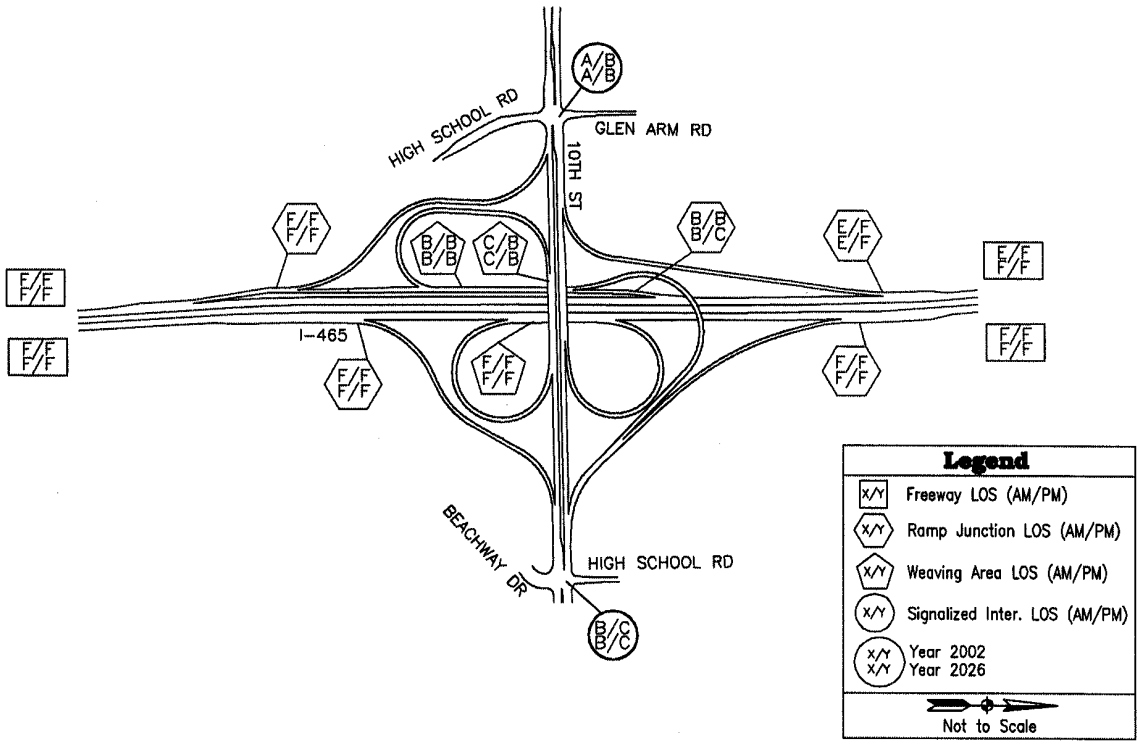


Figure 1-3
Existing and Proposed LOS and Configuration
US 36/Rockville Rd Interchange
(SHEET 4 OF 7)

Existing Configuration (2002 and 2026)



Proposed Configuration (2026)

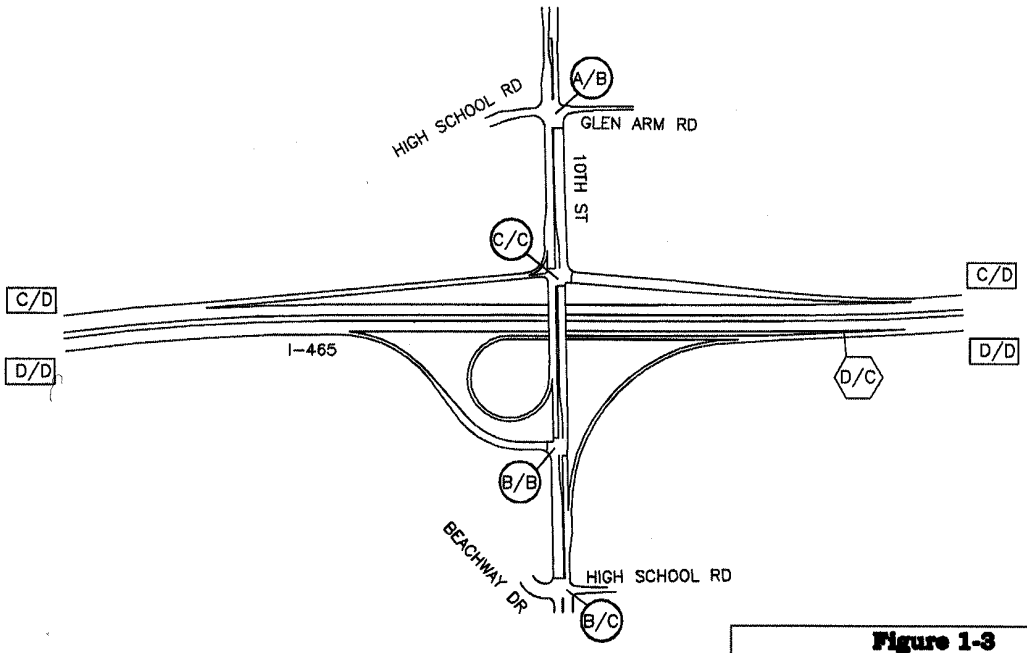


Figure 1-3
Existing and Proposed LOS and Configuration
10th Street Interchange
(SHEET 5 OF 7)

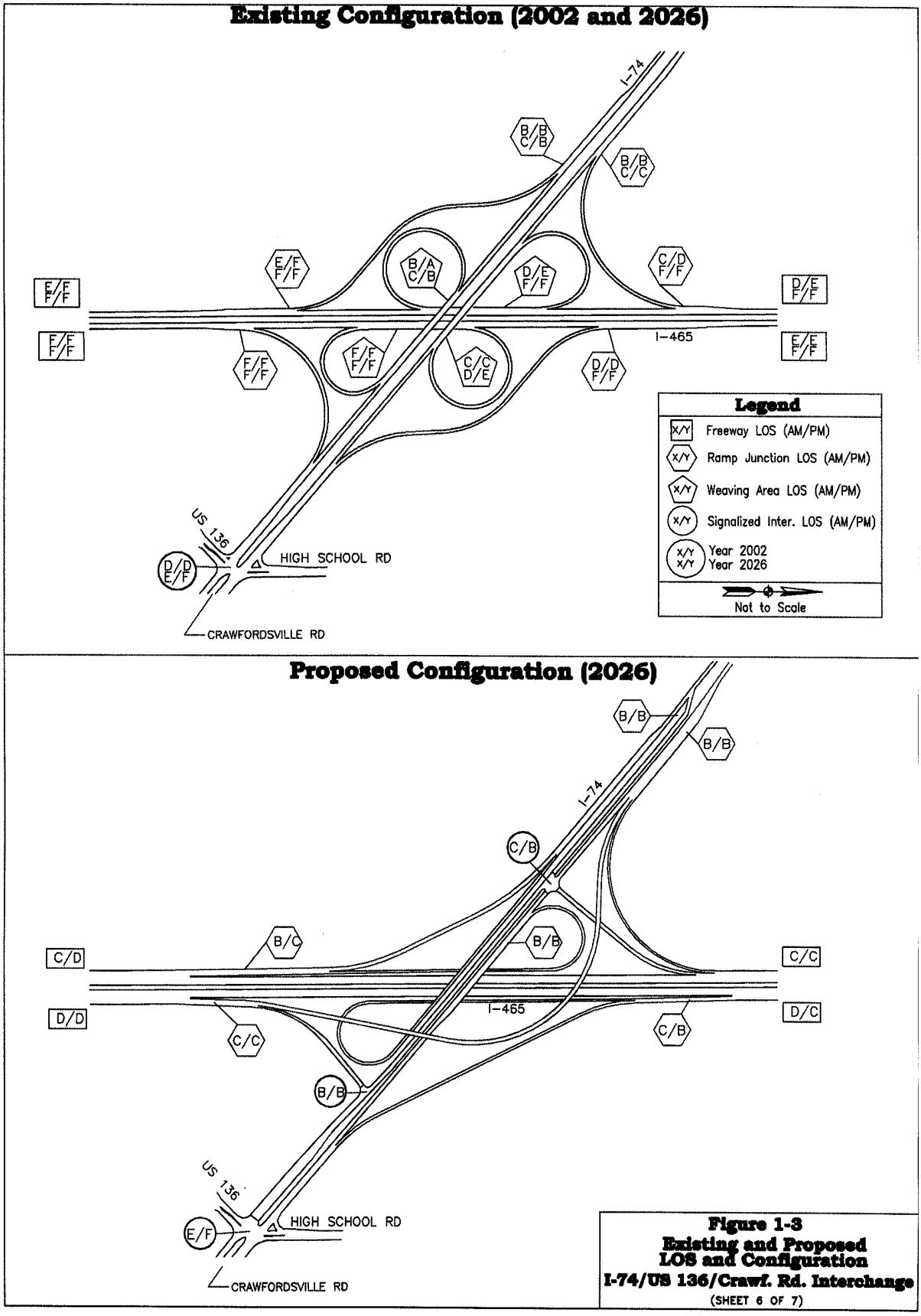
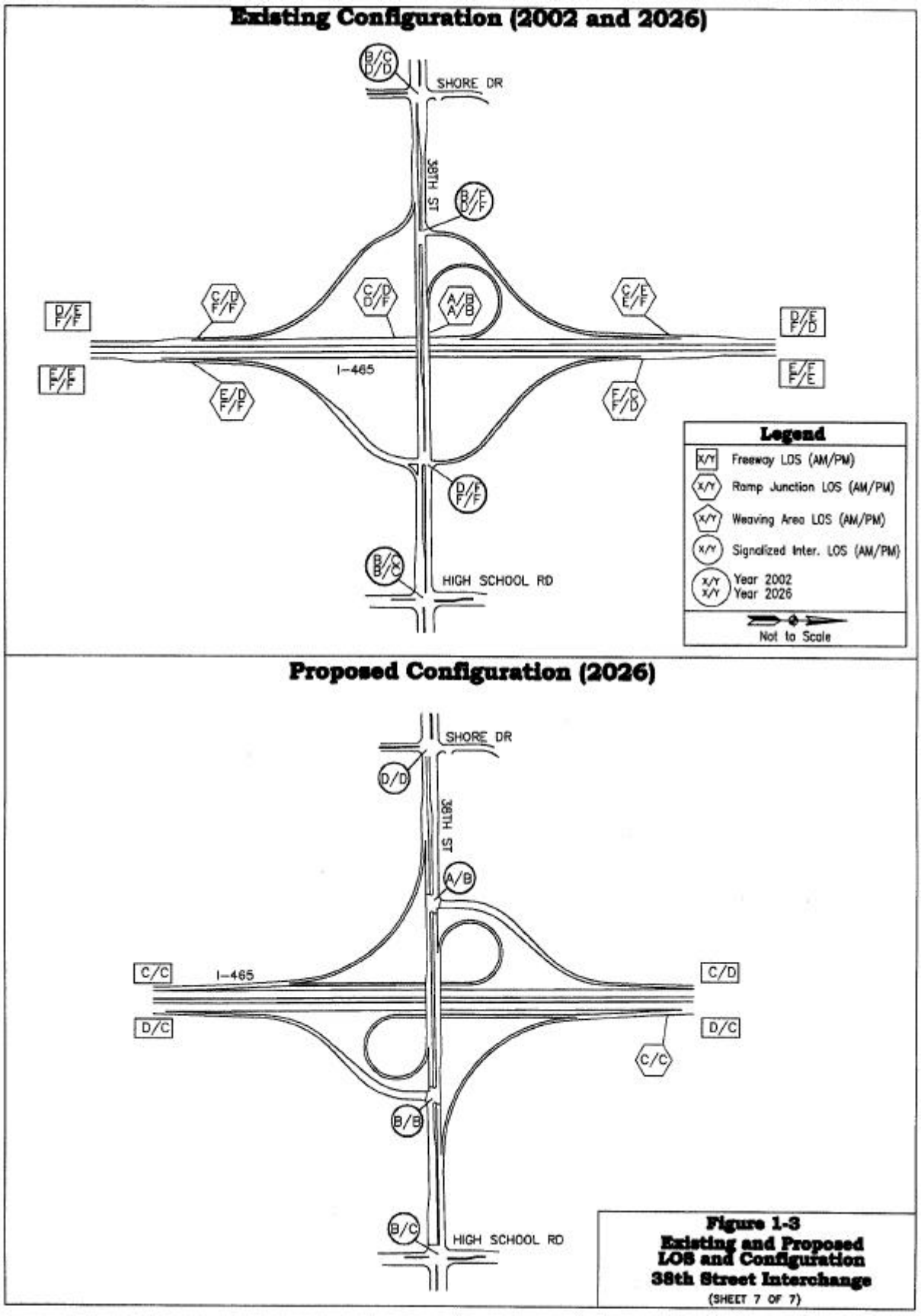


Figure 1-3
Existing and Proposed LOS and Configuration
I-74/US 136/Crawf. Rd. Interchange
(SHEET 6 OF 7)


Existing Configuration (2002 and 2026)
SHORE DR
38TH ST
I-465
HIGH SCHOOL RD
Legend
Freeway LOS (AM/PM)
Ramp Junction LOS (AM/PM)
Weaving Area LOS (AM/PM)
Signalized Inter. LOS (AM/PM)
Year 2002
Year 2026
Not to Scale
Proposed Configuration (2026)
SHORE DR
38TH ST
I-465
HIGH SCHOOL RD
Figure 1-3
Existing and Proposed
LOS and Configuration
38th Street Interchange
(SHEET 7 OF 7)

1.6 Geometric Deficiencies

The project is needed to improve geometric deficiencies along mainline I-465 and the associated interchanges within the project area. At numerous locations along the corridor, the proposed new construction will bring the roadway up to current design and safety standards, especially in the areas of: 1) inside and outside mainline and ramp shoulder widths; 2) interchange ramp acceleration, deceleration and taper lengths; and, 3) clear zone and guardrail/barrier requirements.

Three vertical curves within the project area do not satisfy the 70 mph design speed. All three curves are crest curves, and they are located at the I-465 overpasses of SR 67, the CSX rail line approximately 1600' south of US 40, and the CSX rail line approximately 1300' south of US 36. The proposed construction in these areas will satisfy a 70 mph design speed.

INDOT's Pavement Management Section indicated that the existing overlay is in fair to good condition, but is expected to deteriorate by the construction year (2005 or later). The base concrete layer is 34 to 41 years old. The concrete base has widespread distress, severely so at joints. Any improvements to capacity or to I-465's pavement are to be done at the same time to minimize inconvenience to travelers during construction.